

REMARKS

Responsive to the Office Action, Applicants acknowledge with appreciation the allowance of Claims 1 through 5, 12 through 14 and 39 through 41.

Pursuant to the Examiner's objection to Claims 11, 15, 16, 24 through 28, 31, 34 through 36, 38, 44 through 48, 82 through 84 and 153, Applicants have amended Claims 11, 15, 24, 25, 29, 32, 33, 34, 38, 44 through 46, 82 and 153.

Applicants also acknowledge with appreciation the indication of the allowability of Claims 82 through 84. Claim 82 has been amended to overcome the Examiner's objection and Claims 82 through 84 are believed to be in condition for allowance.

Reconsideration for allowance of independent Claims 6, 10, 15, 17, 29, 37, 38, 44, 58, 153, 154 and 156 through 158 is requested. Each of these claims has been rejected under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) over US Patent 5,630,363 to Hartung et al. taken alone or in combination with other references.

With respect to those claims which place a flexographic printing station ahead or in front of a lithographic printing station, Applicants respectfully submit they have presented facts and documentary evidence establishing priority of invention with respect to the Hartung et al. reference as set forth in the Joint Declaration Under 37 C.F.R. 1.131 executed by Applicants on June 30, 2000 and of record in this application, the Declaration of Applicant Jesse S. Williamson under 37 C.F.R. 1.131, executed on September 22, 2000 and of record in this application, and the corroborating Declaration of Gary Doughty executed on September 24, 2000 and of record in this application. Applicants respectfully submit that the

declarations referenced hereinabove establish conception of the invention of placing a flexographic printing station ahead of or "in front of" a lithographic printing station before the effective date of the Hartung et al. reference. Moreover, the Declarations referenced hereinabove, together with at least the Declarations of Scott Brown, executed on December 30, 1999, Steven Baker, executed on November 3, 1999 and October 5, 2000, and Steve M. Garner executed on April 6, 2000, all of record in this application, establish evidence of diligence in pursuing the development of an apparatus for providing a combined lithographic/flexographic printing process comprising a plurality of successive printing stations for printing images on a substrate in a continuous in-line process wherein the printing stations comprise a first flexographic printing station ahead of or in front of a lithographic printing station. Accordingly, the rejections of the claims which recite the provision of a flexographic printing station ahead of a lithographic printing station in a continuous inline process based on the Hartung et al. reference are respectfully requested to be withdrawn, since it is clear from the evidence of record that Applicants conceived the basic inventive concept of a flexographic printing station ahead of a lithographic printing station in a continuous inline process prior to the effective dates of any of the prior art references in this application, including Hartung et al.

Notwithstanding the ineffectiveness of the Hartung et al. reference with respect to the independent claims currently pending in this application, Applicants request reconsideration for allowance of such claims, together with the claims depending thereon, respectively, for the following cogent reasons.

In the Office Action, the Examiner rejected Claims 6 through 9, 11, 15 through 18, 20 through 23, 25 through 28, 58

and 59 under 35 U.S.C. 103(a) as being unpatentable over the teaching of Hartung et al. in view of US Patent 4,841,903 to Bird. Although the Hartung reference discloses an embodiment wherein a flexographic station is disposed in front of a lithographic printing station, Hartung et al. does not suggest the provision of a flexographic printing station for printing images or colored ink images. Hartung et al. merely suggests that the flexographic stations are for applying "basic coatings" or "lacquer" or "intermediate coatings", the latter to facilitate performing a "drying function". Hartung et al. further fails to disclose or suggest providing a dryer for treating an aqueous based vehicle image placed on a substrate by a flexographic printing station, the dryer being disposed downstream of the flexographic printing station and ahead of a lithographic printing station. The Bird reference discloses a coating and printing apparatus having plural lithographic printing and coating stations where dryer apparatus are interposed said stations and following a last printing or coating station. However, the overall combination of a flexographic printing station ahead of a lithographic printing station with a dryer disposed between such stations is not disclosed in or suggested by the references taken alone, in combination, or one modified in view of the other. There is no motivation in Bird to place a dryer downstream of a flexographic printing station which is printing an aqueous based vehicle image using a flexographic process to form a metallic coating on a substrate, followed by a lithographic printing station downstream of the dryer for printing a color image over the aqueous based vehicle image by way of an offset lithographic process. This overall combination of features is set forth in independent Claim 6, as amended herein, and this claim is

believed to be patentably distinct due to the lack of suggestion in Bird and/or Hartung et al. to provide such a combination.

Claims 7 through 9 refer back to and further restrict Claim 6 and reconsideration for allowance of these claims is requested at least for the reasons set forth above in support of amended Claim 6. With respect to Claim 9, in particular, neither Hartung et al. nor Bird suggest the provision of a flexographic printing station including a plate cylinder having a flexographic plate, a blanket cylinder and an impression cylinder and wherein an anilox roller is associated with the flexographic plate for supplying the aqueous based vehicle containing suspended metallic material. Accordingly, reconsideration for allowance of Claims 7 through 9 is requested.

In the Office Action, the Examiner rejected Claim 10 under 35 U.S.C. 102(e) over Hartung et al. Although Hartung et al. discloses that flexographic printing/lacquering units (16) could be positioned between two or more of the printing units disclosed by Hartung et al., Hartung et al. does not disclose the first flexographic printing station for printing a first color image wherein one of the stations downstream of the first flexographic printing station comprises a second flexographic printing station for printing or coating the substrate and further wherein at least one of the successive printing stations is an offset lithographic printing station for printing a second color image over the first color image, per se, using the offset lithographic process. These are the requirements of Claim 10 and are not directly anticipated by or suggested by Hartung et al. Reconsideration for allowance of Claim 10 is requested.

Reconsideration for allowance of Claim 11 is requested for the reasons set forth above in support of Claim 10. In the

Office Action, the Examiner rejected Claim 11 under 35 U.S.C. 103(a) as being obvious over the teaching of Hartung et al. as modified by Bird. However, as pointed out above, Hartung et al. does not disclose or suggest the particular configuration of a first flexographic printing station, a second flexographic printing station or an offset lithographic printing station for printing a second color image over a first color image which is printed by the first flexographic printing station, as required by Claim 10. Moreover, Hartung et al., as modified by Bird, would not provide for a plate cylinder at the first flexographic printing station, which includes a flexographic plate, and further wherein the first flexographic printing station includes an anilox roller for supplying a first color to the flexographic plate to form the first color image for transfer to a blanket cylinder for transferring the first color image to the substrate. Reconsideration for allowance of Claim 11 is requested.

Reconsideration for allowance of Claims 15 and 17 and the claims dependent thereon, respectively, is requested. With regard to Claim 15, this claim requires a first flexographic printing station including a blanket cylinder, an impression cylinder and flexographic ink providing means for applying a flexographic ink image to a substrate and a lithographic printing station in the inline process for receiving the image printed substrate and printing an additional colored ink image on the substrate on top of the flexographic ink image using offset lithography. In at least these respects Claim 15 is believed to be a patentably distinct combination in view of the teaching of Hartung et al. as modified by Bird. Neither of these references suggests the particular arrangement wherein a flexographic ink image is applied to a substrate and then a

colored ink image is applied on top of the flexographic ink image using offset lithography. Hartung et al. suggests that a flexographic "printing/lacquering" unit can be positioned upstream of a first printing unit for applying basic coatings to sheet metal material, plastic foil or cardboard, before printing, and a second lacquering unit disposed downstream of the last printing unit. Alternatively, Hartung et al. suggests a "flexographic printing/ lacquering unit" could be positioned between two or more of the printing units (11-15) of the printing press (10) for applying intermediate coatings. However, there is no suggestion in Hartung et al. or Bird to apply an ink image to a substrate using flexographic ink and then applying a colored ink image on the substrate on top of the flexographic ink image using offset lithography. With respect to Bird, this reference describes a multistage lithographic printing apparatus, but Bird does not suggest the provision of a flexographic printing station for applying a flexographic ink image to a substrate followed by printing of an additional colored ink image on top of the flexographic ink image using offset lithography. Reconsideration for allowance of Claim 15 is requested.

Reconsideration for allowance of Claim 16 is requested. Neither of the references suggest providing a flexographic ink providing means including a flexographic ink supply and an anilox roller associated with the ink supply for transferring flexographic ink to a flexographic plate.

With respect to Claim 17, neither Hartung et al. nor Bird taken alone or one modified in view of the other, suggest the combination of a plurality of successive printing stations for printing color on a substrate in a continuous inline process wherein one of the printing stations is a first flexographic

printing station having a plate cylinder, a blanket cylinder and an etched anilox roller for applying flexographic ink through a flexographic plate on the plate cylinder and further wherein at least one succeeding printing station uses offset lithography for printing an additional colored ink image on top of a flexographic ink image.

Claims 18 through 28 refer back to and further restrict Claim 17 and are believed to be patentable at least for the reasons set forth in support of the patentability of Claim 17.

Reconsideration for allowance of amended Claim 29 is requested. In the Office Action, the Examiner rejected this claim under 35 U.S.C. 102(e) as being anticipated by Hartung et al. Claim 29 requires a method of combining lithography and flexographic printing in a continuous inline process which includes the steps of printing a flexographic ink image on a substrate at a first flexographic printing station, printing color ink images on top of the flexographic ink image at a subsequent lithographic printing station and printing a coating on the substrate over the ink images at a second flexographic printing station. Hartung et al. discloses placing the flexographic printing/ lacquering units either upstream or downstream of the lithographic stations or positioned between two or more printing units of a printing press for applying intermediate coatings. However, Hartung et al. does not disclose printing a flexographic ink image on a substrate at a first flexographic printing station followed by printing colored ink images on top of the flexographic ink image and followed by printing a coating on the substrate over the ink images at a second flexographic printing station. Reconsideration for allowance of Claim 29 is requested.

Claims 30 and 32 through 36 remain dependent on Claim 29. Reconsideration for allowance of these claims is requested for the reasons set forth in support of the patentability of Claim 29.

Reconsideration for allowance of Claim 37 is requested. In the Office Action, the Examiner rejected Claim 37 under 35 U.S.C. 103(a) as being unpatentable over Hartung et al. in view of Bird and further in view of US Patent 4,403,550 to Sharp. Claim 37 requires a method of combining offset lithography and flexographic printing by transferring a flexographic ink pattern from a blanket cylinder to a substrate then transferring the substrate to a second flexographic printing station and applying a pattern of flexographic ink using the second flexographic printing station and then printing a waterless ink pattern using at least one subsequent offset lithographic printing station in a continuous inline process. However, Hartung et al. does not suggest providing two flexographic printing stations in succession for applying a pattern of flexographic ink and followed by a lithographic printing station. Hartung et al. does suggest that flexographic "printing/lacquering" units could be positioned between two or more of the lithographic printing units (units 11-15) but this is not a suggestion that two flexographic printing stations be arranged in succession and transferring the substrate from one flexographic printing station to the next and then printing a waterless ink pattern over the flexographic ink pattern on the substrate at a subsequent offset lithographic printing station. Neither Bird nor Sharp suggest this arrangement of printing stations. Accordingly, modifying Hartung et al. as taught by Bird or Sharp would not provide the method set forth in Claim 37.

Applicants request reconsideration for allowance of Claim 38. In the Office Action, Claim 38 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hartung et al. in view of the Pantone reference. Applicants respectfully submit that Hartung et al. as modified by Pantone does not provide a method of printing an aqueous based vehicle image having suspended particles on a substrate at a first flexographic printing station then transferring the image printed substrate to a lithographic printing station and printing additional colored ink images on the printed substrate over the aqueous based vehicle image using an offset lithographic process at the subsequent printing station and then printing a coating over the colored ink images on the substrate using a flexographic process. Hartung et al. suggests that two flexographic stations may be placed at the downstream end of a multi-station printing press, or placing a flexographic station upstream as the first station for applying "basic coatings", or placing a flexographic station between two printing stations for applying "intermediate coatings" to facilitate a drying function. However, Hartung et al. does not suggest printing on a substrate at a first flexographic printing station and printing over an aqueous base vehicle image at an offset lithographic station and then printing a coating over colored ink images on the substrate at a second flexographic printing station. This combination is not suggested by Hartung et al. nor Hartung et al. as modified by Pantone.

Reconsideration for allowance of Claims 44 through 48 is requested. In the Office Action, the Examiner rejected Claims 44 through 47 under 35 U.S.C. 102(e) as being anticipated by Hartung et al. Claim 44 has been further amended to clarify the order of printing stations as being a first flexographic

printing station, a first lithographic printing station for printing an image on the substrate, a second flexographic printing station and then a second lithographic printing station whereby a second liquid vehicle image printed by the second flexographic printing station is printed on top of at least a portion of the image printed at the first lithographic printing station. In at least these respects Claim 44 is believed to distinguish over the disclosure of Hartung et al. Applicants respectfully submit that the order of printing and the limitations on the printing are not merely an intended use but clearly define the terms of Claim 44 in a patentable sense. Reconsideration for allowance of Claim 44 and Claims 45 through 48 dependent thereon is requested.

Reconsideration for allowance of Claim 58 is requested. In the Office Action, the Examiner rejected Claims 58 and 59 under 35 U.S.C. 103(a) as being unpatentable over Hartung et al. in view of Bird. Claim 58 has been amended to include the recitation of Claim 59 and to clearly distinguish over the teaching of Hartung et al. taken alone or as modified by Bird. Neither Hartung et al. nor Bird clearly define that the flexographic station utilizes an anilox roller for transferring flexographic ink to a flexographic plate and then to a blanket cylinder for forming an image on one side of a substrate, this apparatus arrangement being followed by a subsequent lithographic station for receiving the image printed substrate and printing an additional colored ink image on the substrate on top of the flexographic ink image. Both Hartung et al. and Bird discuss the application of "coatings" but not an arrangement of flexographic and lithographic printing stations wherein an additional lithographic colored ink image is printed on a

substrate on top of a flexographic ink image. Accordingly, Claim 58, as amended, is believed to be patentably distinct.

Reconsideration for allowance of Claim 153 is requested. Claim 153 was rejected under 35 U.S.C. 102(e) as being anticipated by Hartung et al. However, Hartung et al. does not disclose or suggest the particular order of flexographic and lithographic printing stations as set forth in Claim 153, including the order of a first flexographic printing station for printing an image, then a first lithographic printing station for printing an image, then a second flexographic printing station for printing an image and finally a second lithographic printing station for printing an image. Hartung et al. discloses that a "flexographic printing/ lacquering unit" (56) may be positioned upstream of a first printing unit or that flexographic printing/lacquering units could be positioned between two or more printing units for applying basic or intermediate "coatings". However, the particular order of printing units for printing images as required by Claim 153 is not disclosed in or suggested by Hartung et al.

Reconsideration for allowance of Claim 154 is requested pursuant to the amendments to this claim presented herein. In the Office Action, the Examiner rejected Claim 154 under 35 U.S.C. 103(a) as being obvious over Hartung et al. in view of Bird and further in view of US Patent 5,115,741 to Rodi. Claim 154 has been amended to recite the order of a plurality of successive printing stations as being a first flexographic printing station followed by a first dryer, a first lithographic printing station subsequent in the process to the first dryer, a second dryer subsequent in the process to the first lithographic printing station, a second flexographic printing station subsequent to the second dryer and a third dryer subsequent in

the process to the second flexographic printing station. The overall combination of features set forth in amended Claim 154 is believed to be patentably distinct. The particular order of stations is not disclosed or suggested by Hartung et al. nor the secondary references. Still further, the provision of a dryer after each flexographic station and after each lithographic station is also not suggested by the secondary references with respect to the combination of printing stations set forth in Claim 154.

Reconsideration for allowance of Claim 156 is requested. Applicants respectfully submit that the prior art of record in this application does not suggest a method of combined lithographic/flexographic printing process wherein an image is printed on a first side of a substrate using a first lithographic printing station, then an image is printed on the substrate on the same side using a first flexographic printing station and then an image is printed on the same side of the substrate using a second lithographic printing station and finally an image is printed on the same side of the substrate using a second flexographic printing station. As pointed out hereinabove with respect to the teaching of the art, there is no suggestion to provide a method wherein images are printed by a lithographic printing station, then a flexographic printing station, then another lithographic printing station and then still another flexographic printing station. Claim 156 is believed to be patentably distinct.

Reconsideration for allowance of Claim 157 is requested. Applicants respectfully submit that Hartung et al. does not disclose the specific process of printing images on one side of a substrate in the order of a first flexographic image, then a first lithographic image, then a second flexographic image, then

a second lithographic image. Hartung et al. discloses placing a flexographic station as the first station for applying "basic coatings". Hartung et al. also discloses placing flexographic stations between other printing stations for applying intermediate coatings to facilitate drying but not the specific order of flexographic then lithographic then flexographic then lithographic for printing images.

Still further, Applicants request reconsideration for allowance of Claim 158. Again, as with the arguments set forth above with respect to the steps of printing images using lithographic stations and flexographic stations in alternating relationships, the prior art fails to disclose or suggest a method of combined lithographic/flexographic printing wherein images are printed at a first lithographic station, then at a first flexographic station, then dried, then further images being printed at a second lithographic station, then dried and followed by printing further images at a second flexographic station and then dried. The prior art clearly fails to disclose or suggest this combination of steps of printing images on a substrate using both flexographic and lithographic stations and dryers as set forth in the claim.

Applicants request consideration for allowance of new Claims 159 through 164. These claims are believed to be necessary to fairly protect the invention in this application and are believed to be allowable for the reasons set forth above in support of the other claims currently pending in this application. Still further, Applicants submit that the prior art fails to recognize, disclose or suggest an apparatus which includes a flexographic printing station followed by a lithographic printing station and with a dryer disposed between such stations. The particular configurations of printing

stations which, in a printing apparatus, include a flexographic printing station followed by a lithographic printing station in an in-line process and, particularly, including a dryer interposed such stations, is not appreciated by the prior art. Accordingly, Claims 159 through 164 are believed to be patentably distinct and necessary to protect the instant invention.

An executed Supplemental Declaration for Reissue Patent Application is enclosed herewith.

Applicants have made a further diligent effort to advance the prosecution of this application by canceling claims, amending claims and pointing out with particularity herein how the claims now presented distinguish in a patentable sense over the prior art. An early Notice of Allowance of the claims currently pending, per this amendment, is respectfully requested.

Respectfully submitted,

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Michael E. Martin
Michael E. Martin
Registration No. 24,821
Agent for Applicant(s)

Gardere Wynne Sewell LLP
1601 Elm Street, Suite 3000
Dallas, Texas 75201-4761
Phone (214) 999-3000
Fax (214) 999-3623